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REMARKS

Claims 1, 3-16, 19-23 are pending in the present application. Claim 3 has been canceled, Claims 15 and 21 have been amended, and Claims 24 - 31 have been added, leaving Claims 1, 4-16, and 19-31 for consideration upon entry of the present Amendment. Support for the amendment to Claim 15 is found in Claims 1, 13, and 15 as originally filed. Support for the amendment to Claim 21 is found on Page 8, 2nd full paragraph of the Specification. Support for Claims 24 - 29 can be found in the Examples (e.g., Example II, preparation of calcium/neodymium catalyst), and on Page 7, line 23 - Page 9, line 6, as well as in originally filed Claim 13. Support for Claim 30 can be found in Claim 1, 16, Page 9, line 21 - 23. No new matter has been introduced by these amendments. Reconsideration and allowance of the claims is respectfully requested in view of the above amendments and the following remarks.

Claim Objections

Claim 3 is objected to under 37 CFR 1.75(c) and rejected under 35 U.S.C. §112, second paragraph. Claim 3 has been canceled, rendering this objection and rejection moot.

Claim Rejections Under 35 U.S.C. §102(b)

Claims 1, 3, 5-14, 16 and 23 stand rejected under 35 U.S.C. §102(b), as allegedly anticipated by U.S. Patent No. 5,051,392 to Mabilon et al. ("Mabilon"). Applicants respectfully traverse this rejection.

Mabilon teaches a catalyst having a porous layer, wherein the porous layer comprises at least one refractory inorganic oxide; about 0.1 to about 25% of at least one uranium oxide; about 0.1 to about 35% of at least one oxide of at least one metal selected from the group consisting of lithium, sodium, potassium, rubidium, cesium, beryllium, magnesium, calcium, strontium, barium, lanthanum, praseodymium, neodymium, gadolinium, yttrium, and zirconium; and a catalytically active phase. Applicants' Claims 1 and 16, however, claim in part a NO_X occluding catalyst comprising an outer layer having at least about 50 wt% of an alkaline earth component, and not more than about 42 wt% of a rare earth component.

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Varient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987). Applicants submit that because Mabilon only discloses a catalyst comprising about 0.1 to about 35% of at least one

oxide of at least one metal wherein the metal may be selected from beryllium, magnesium, calcium, strontium, and barium among others. Mabilon does not anticipate Claims 1 and 16 which call for at least about 50 weight percent of an alkaline earth component. Applicants submit that "at least about 50 weight percent" is outside the reasonable range taught in Mabilon. The Examiner has rejected this argument citing *In re Morris* where the court held that claims must be given their broadest reasonable interpretation. *In re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997). Giving a claim its "broadest reasonable interpretation" does not mean that a specific claim element can be ignored. Applicants claim "at least about 50 wt%" of an alkaline earth component. In contrast, Mabilon discloses "about 0.1 to about 35 wt%". Even at a broadest reasonable interpretation, 35 wt% can not be interpreted as equivalent to "at least about 50 wt%". As the range of "at least about 70 wt%" is outside of Mabilon's range (Applicant's Claim 4 which was not rejected), "at least about 50 wt%" is similarly outside of Mabilon's range. Consequently, Applicant's range is outside of the range taught by Mabilon; Applicants' catalyst is a different catalyst.

It should further be noted, with respect to Claim 16, it is contended that Mabilon discloses a catalyst for nitrogen oxides (Column 1, lines 18-20) comprising a porous layer containing mixtures of calcium and neodymium (Abstract), zeolite (Column 3, line 54), 0-35% zirconium (Column 2, lines 32-37), and ceramic (Column 3, line 26). Mabilon, however, fails to disclose an alkaline earth exchanged zeolite as is taught and claimed in the present application.

Therefore, as Mabilon does not disclose a catalyst comprising at least about 50 wt% of an alkaline earth component, fails to disclose alkaline earth exchanged zeolite, and therefore fails to disclose every element of Applicants' independent Claims 1 and 16. Consequently, Mabilon fails to anticipate or render obvious the present application. Reconsideration and withdrawal of this rejection is requested.

Claims 1-4 and 16-23 are rejected under 102(b) as anticipated by U.S. Patent No. 4,988,660 to Campbell et al. ("Campbell"). Claim 1 has been rejected as it is alleged that Campbell discloses catalysts comprising neodymium (Column 3, line 45) and calcium (Column 7, lines 52-60). Claims 2-4 and 19 are rejected as Campbell allegedly discloses up to about 60% calcium oxide. (Column 7, lines 52-60), neodymium (Column 3, line 45), zirconia (Column 7, lines 66-67). and alumina (Column 8, lines 14-18).

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In addition to the reasons listed above, Claims 16 and 20-22 are further rejected as Campbell allegedly teaches the use of binder (Column 7, lines 38-40). It is further alleged that the claimed ranges of components include zero except the alkaline earth oxide, which is an approximation. Claim 23 is rejected as it is alleged that Campbell discloses calcium oxide (Column 7, lines 52-60). Applicants point out that they have canceled Claims 2, 17, and 18 in a response filed on 1/9/2002. Applicants have also canceled Claim 3. Applicants respectfully traverse the Examiner's rejections of Claims 1, 4, 16, and 19-23.

Campbell discloses alkali metal doped perovskites useful in the oxidative coupling of alkanes to higher hydrocarbons (Abstract). Perovskites are very specific compounds. Campbell does not teach or suggest that these compounds are NO_X occluding catalysts, and Applicants submit that artisans do not consider perovskites as useful in NO_X reduction. Therefore, Applicants submit that Campbell does not teach a NO_X occluding catalyst; hence, Claims 1, 16, and 20 contain limitations not taught in Campbell. To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine,* 3 U.S.P.Q.2d 1766. Because Applicants' claimed NO_X occluding element is not disclosed in Campbell, Campbell cannot anticipate independent Claims 1, 16, 20, and 21 under §102(b). Therefore, Claims 1, 16, 20, and 21 are allowable. If a reference does not anticipate an independent claim, it cannot anticipate claims dependent on that unanticipated claim. As such, dependent Claims 4, 19, and 22-23 are also allowable.

The Examiner contends that " It is argued that Campbell discloses an alkali metal doped perovskites useful in oxidative coupling of alkanes. This is not persuasive because a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim." (Paper 5, page 6) Based upon the Examiner's contention, the present application is allowable. Applicants do not recite an "intended use" in the preamble, but set forth a limitation of a "NOx occluding catalyst structure...". As stated in the prior response, "Pervoskites are very specific compounds. Campbell does not teach or suggest that these compounds are NOx occluding catalysts, and Applicants submit that artisans do not consider pervoskites as useful in NOx reduction." (Amendment dated January 9, 2002, Page 4). In other words, Applicants contend, state, and allege, and do not merely "suggest" that perovskites are structurally different

than the NOx occluding catalyst structure and contend that the Examiner has failed to shown any evidence that perovskites can be used or that one of ordinary skill in the art would have an expectation of success when employing a perovskite as a NOx occluding catalyst. If the Examiner is taking Official Notice that a perovskite is a NOx occluding catalyst, Applicants respectfully traverse this assertion and, pursuant to MPEP 2144.03, request evidence to support the Examiner's position. Applicants have reviewed Campbell and do not see any evidence therein to support the Examiner's position, Applicant's have stated that it is their understanding that perovskites are not NOx occluding catalysts, and there are officially requesting that this rejection be withdrawn or proof to support this Official Notice be provided.

With respect to the claim ranges, Applicants again assert that "at least about 70 wt%" is different from and does not include about 0.1 to 60 wt%, and that an artisan would not interpret, even given the broadest interpretation, at least about 70 wt% as including about 0.1 to 60 wt%. Giving a broad interpretation does not equate to ignoring claim elements

Considering that perovskite is not a NOx occluding catalyst, and that Campbell fail to teach the ranges claimed in the present application, Campbell fail to anticipate or render obvious the present claims. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 21-23 are rejected under 102(b) as anticipated by U.S. Patent No. 5,545,604 to Demmel et a . ("Demmel"). Claims 21-22 are rejected as it is alleged that Demmel discloses a catalyst comprising 50-95% calcium oxide in the final product, alumina as a binder, and 40% alumina. Applicants respectfully traverse this rejection.

Demmel claims the "spinel-like" means, to one of ordinary skill in the art, that it comprises an Al_2O_4 portion. When the spinel $MgAl_2O_4$ is 95 wt%, the magnesium portion of that spinel is not more than 50%. Table II (Col. 16 lines 35-45) shows the MgO portion has a low of 20 wt % and a high of 50 wt%; not 95 wt%. Demmel teaches alumina sol and magnesium oxide forming magnesium aluminate $MgAl_2O_4$. Note the crystal structure in Figures 11 and 12 showing a $MgAl_2O_4$ structure.

Demmel fails to teach Applicants range or materials as is taught and Claimed in Claim 21. Furthermore, Demmel fails to teach the use of these particular stabilizers or the amount of these stabilizers as is taught and claimed in the present application. Consequently, Demmel fails to anticipate the present application. Reconsideration and withdrawal of this rejection is requested.

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It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the rejection, and allowance of the case is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-0831 maintained by Assignee.

Respectfully submitted,

LABARGE ET AL.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

A marked-up version of Claims 15, 16, and 21 follows:

Claim 15. (Amended/marked-up) A catalyst for treating an exhaust gas stream comprising a NO_x occluding catalyst structure having an outer layer comprising:

an alkaline earth component;

a rare earth component; and

a binder wherein the binder is selected from the group consisting of acidic aluminum oxide sol, alkaline aluminum oxide sol, ammonium aluminum oxide sol, and mixtures thereof, and ~~The catalyst of Claim 13 wherein the outer layer comprises a binder~~ is present in an amount of at least about 2 wt% and less than about 6 wt%.

16. (Amended/Marked-up) A catalyst for treating an exhaust gas stream comprising:

a NO_x occluding catalyst structure comprising an alkaline earth exchanged zeolite and an alkaline earth alumina having an outer layer comprising at least about 50 wt% of an alkaline earth oxide component, not more than about 42 wt% of a rare earth oxide component, a surface area stabilizer, and a ceramic ~~oxide~~ binder.

21. (Amended/marked-up) A catalyst for treating an exhaust gas stream comprising:

a NO_x occluding catalyst structure having an outer layer comprising at least about 70 wt% calcium ~~oxide~~ component, not more than about 25 wt % neodymium ~~oxide~~ component, not more than about 3 wt% stabilizer and at least about 2 wt% binder.